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Ecosystem services for farms: a methodological evaluation proposal of the pollination ecosystem service

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Abstract

Farms benefit from the ecosystem services produced by the physical and biological environment (e.g. rainfall, soil fertility, climate, etc.) and from positive externalities produced by other farms. In economic literature, ecosystem services are benefits which derive, either directly or indirectly, from ecosystems. In the field of ecosystem services, the pollination service of wild pollinators, that is bees, takes on particular importance. While in the past the pollination service of agricultural crops used to be provided mainly by wild pollinators, and for support purposes, by managed honey bees, nowadays the progressive reduction of wild pollinators is determining a demand for pollination services by farmers whom beekeepers are able to meet their needs by renting them some bee colonies for short periods. The demand for such a service derives both from agricultural entrepreneurs operating in the open field (specialized orchards) and from entrepreneurs operating in a protected environment (vegetables, greenhouse products). While the offer concerning the commercial pollination service for a beekeeping farm is added to the core business of honey production and by-products (wax, royal jelly and propolis), contributing to an increase revenues, an agricultural enterprise which benefits from this service represents one of the components of the cost of production. This work aims to make a critical analysis of the economic profile and of the pollination ecosystem service. Furthermore, it will be shown how the composition of the agricultural landscape affects the availability of wild pollinators and consequently the demand for pollination services. Finally, by applying the replacement cost method, the value of the

ecosystem pollination service by wild pollinators upon pollination of the apple orchards in Trentino will be estimated.

Keywords : ecosystem services; commercial pollination services; positive externalities.

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